



## **Snowdrift – visualisation on an architectural model in wind tunnel testing**

**Fiebig, Jennifer; Koss, Hans Holger Hundborg**

*Published in:*

International Conference on Materials, Systems and Structures in Civil Engineering

*Publication date:*

2016

*Document Version*

Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*

Fiebig, J., & Koss, H. H. H. (2016). Snowdrift – visualisation on an architectural model in wind tunnel testing. In *International Conference on Materials, Systems and Structures in Civil Engineering: Conference workshop on Cold Region Engineering* (pp. 67-67). Technical University of Denmark, Department of Civil Engineering. B Y G D T U. Rapport No. Byg R-352

---

### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

## **SNOWDRIFT – VISUALISATION ON AN ARCHITECTURAL MODEL IN WIND TUNNEL TESTING**

**Jennifer Fiebig <sup>(1)</sup>, Hans Holger Hundborg Koss <sup>(1)</sup>**

<sup>(1)</sup> Department of Civil Engineering, Technical University of Denmark, Lyngby, Denmark

### **Abstract**

Wind-driven snow in cold regions is a significant problem for the built environment and the integration of snow deposition into the early design process is not sufficient implemented. Snowdrift simulation on a reduced scale in wind tunnel testing often investigates the similarity of particle transport and deposition at and around buildings in comparison to the nature phenomenon. Although a number of studies performed the deposition on a test model with different snow substitutes, the scaling of the phenomenon is still not understood or inaccurate. The study is a visual method of the snow effects on architectural models. A visual performance of the snowdrift simulation was carried out in a small boundary-layer wind tunnel at DTU Civil Engineering. The particle distribution and the effect of the substitute material on the surface and around the test model were performed. The applied method is an alternative approach hence the model design and the visual effect was primarily considered. Main aspects in the model design were different materials and sizes (matter of scale) which were photographed in picture series and time laps. The method indicates the aerodynamic phenomenon as a visual understanding of the physical process.